Bid Specifications

Firearms/Toolmarks Comparison Microscopes with HD Digital Video imaging system

Quantity - 4

I. Statement of Purpose

The Alabama Department of Forensic Sciences (ADFS) is seeking to purchase four "state of the art" forensic firearms/toolmarks comparison microscopes with High Definition (HD) digital video imaging system necessary for the comparison of projectiles, cartridge cases and toolmarks in forensic cases within the State of Alabama. This request for bid (RFB) has been issued by ADFS in an effort to obtain bids from qualified vendors for the purpose of purchasing the four comparison microscopes with HD digital video imaging system. A complete system, for the purpose of this RFB, is defined as a firearms/toolmarks comparison microscope with a HD digital video imaging system. The total number of complete systems to be bid is four (4) and the number of shipping locations is three (3). The first complete comparison microscope system is to be delivered to the Montgomery ADFS Laboratory, the second system is to be delivered to the Mobile ADFS Laboratory, and the third and fourth system is be delivered to the Hoover ADFS Laboratory.

Vendors will submit cost proposals on a line item per category basis for each of the following:

A. Pricing for instrumentation to include the comparison microscope and the accompanying HD digital video imaging system
B. Pricing for one-year warranty on parts and labor
C. Pricing for delivery F.O.B. destinations and the price to include delivery, set-up, installation, and transportation charges for all three (3) locations

Responses to this proposal submitted by vendors will be evaluated for technical merit in addition to financial viability in an effort to achieve the best value for the State of Alabama. Product literature must be included with each bid packet, which allows for evaluation of instrument specifications and operation. The failure of any vendor to include any information that is requested within this RFB may lead to rejection of the bid for non-responsiveness. By responding to this proposal, a vender attests that it is capable of providing the requested technology immediately upon award.

II. Operational Specifications

The following are the mandatory requirements and operational specification to be employed by the vendor regarding the requested instrumentation.

A. The vendor must have a minimum of five (5) years' experience representing the proposed instrumentation in order to insure adequate experience with the requisite technology. Instrumentation may include superseding models of similar devices.

B. The vendor must provide on-site training to ADFS personnel in the setup, operational and technical functions of the requested instrumentation. This training is to proceed at each laboratory location following installation of instrumentation.

C. The vendor must provide timely non-user-conducted instrumentation service and support as needed to maintain overall operational function. The quality of service and support must be such that the vendor cannot have been deficient in providing similar service and support for similar type instrumentation previously purchased by the State of Alabama. Such deficiency may be exemplified by routine instrument unreliable operation and/or specific exclusion of use of such instrumentation in laboratory analyses due to such unreliability of operation.

III. Technical Specifications

The following are the mandatory requirements and technical specifications for the forensic firearms/toolmarks comparison microscopes with HD digital video imaging system and must include delivery, installation, setup and warranty.

Each set of components for the four (4) complete systems must include the following:

Comparison Microscope

A. Macro Comparison Bridge / Stand that will include:
   1. Comparison Macroscope Bridge and stand with motorized vertical column for coarse height adjustment, 255mm travel
   2. Motorized comparison bridge with four push button operated comparison modes: 1) full Left, 2) full Right, 3) Overlay, or 4) variable Split with adjustable overlap ·
   3. Magnification adjustment of +/- 4%, with electronic calibration indicator
   4. Integrated tilting binocular observation tube, 5-35° inclination, 22mm Field-of-View with upright and laterally correct image
   5. Eyepieces placed below top of Comparison Bridge for closer hand-eye position
   6. Integrated photo/video port
   7. Motorized magnification changer, 1x and 1.5x
   8. Two coded six position objective nosepieces, M32 x 0.75 thread, provide parfocal working distance with Plan Apo Macro series objectives
   9. Magnification range from 4x to 60x with optional full set of objectives
   10. Left and right X/Y motorized stages, 160 x 220 mm, with 80 x 80 mm glass inserts for transmitted illumination, 50 x 50mm travel
   11. Speed of motorized stage focus and X/Y traverse selectable for each objective position and automatically engaged when objective is swung into position
   12. Integrated front panel control of bridge functions, motorized focusing, motorized stage movement and remote control of two KL 2500 fiber optic illuminators

13. Includes RS-232 I/O interface to computer with control of motorized functions via application software
14. Dust Cover

B. Two objectives, plan APO macro 0.4x/0.014 – 0.003
1. Plano apochromatic correction, telemetric design
2. Internal aperture diaphragm w/ internal clickstops for control of contrast and depth of field
3. Free working distance 62.0mm
4. M32 x 0.75mm thread

C. Two objectives, M plan APO macro 1x/0.035 – 0.006
1. Plano apochromatic correction, telecentric design for accurate measurements
2. Internal aperture diaphragm with internal click stops for control of contrast and depth of field.
3. Free working distance 62.0mm
4. M32 x 0.75mm thread

D. Two objectives, M plan APO macro 2x/0.07 – 0.01
1. Plano apochromatic correction, telecentric design for accurate measurements
2. Internal aperture diaphragm with internal click stops for control of contrast and depth of field.
3. Free working distance 62.0mm
4. M32 x 0.75mm thread

E. Two objectives, M plan APO macro 4x/0.014 – 0.13
1. Plano apochromatic correction, telecentric design for accurate measurements
2. Internal aperture diaphragm with internal click stops for control of contrast and depth of field.
3. Free working distance 62.0mm
4. M32 x 0.75mm thread

F. Two Eyepieces, HC plan S, 10X/22 BR. M <Single>
1. Single 30mm diameter high eyepoint focusable eyepiece with removable eyecup and rubber ring for protection of eyeglass wearers ·
2. Field-of-view index 22mm ·
3. Accepts 26mm diameter reticle

G. Hand control for motorized functions

H. Two Attachable tilting stages, 75mm diameter <Ball & Socket>
1. Provides tilt with center detent position and 360° rotation
2. With positive locking lever and 75mm diameter rubber-faced stage surface

I. Ball and Socket-Type Bullet Manipulators, Pair
1. Ball and socket mechanism allows specimen to be easily positioned
2. With 360° rotation and lateral displacement with locking lever

J. Set of Bullet Holders for use with Ball and Socket-Type Bullet Manipulators

High Definition Digital Video Imaging System for Comparison Microscope

A. High Definition Video Camera system HDC-x300 3-CDD or better
   1. With three (3) ½" interline transfer CCD image sensors
   2. 1440 x 1080 pixels providing 1920 x 1080p resolution
   3. Outputs RGB-HD or HDSDI video via D-sub 15 pin connector
   4. Provides 800 lines or greater of NTSC video resolution at 30 frames per second
   5. ENG mount
   6. External power supply and all connection and control cables

B. High Definition Video Control Hardware and Software
   1. Must integrate automated microscope, HD digital video camera and software into a common platform
   2. Provide camera control and live video output via included frame grabber
   3. File save of full resolution image in selectable TIFF or JEPG 2000 format
   4. Allows multiple camera configurations to be named and saved for reproducible results
   5. Accepts optional modules for extended functionality
   6. Compatibility with existing Iconico measuring software

C. High Definition Video Control Soft Ware (Measure/Annotate Bundle)
   1. Allows Calibrated Point-To-Point Measurements in selectable units
   2. Provides multiple, independent text annotations to be stored with image

D. High Definition Video Control Soft Ware (Movie Clip)
   1. To allow capture and storage of full motion movie clips
   2. Selectable lossless H.264 / MPEG 4 or compressed MPEG 2 files

E. Computer to run Digital Video software (DELL Precision T3400 or better)
   1. Mini-tower chassis configuration w/ Intel Core2 Duo E7300 processor (2.66 GHz/1066 MHz, 375 watt or better)
   2. MS Windows XP Professional SP3 operating system
   3. 2GB, 667MHz DDR2 SDRAM memory or better
   4. 500 GB SATA hard drive minimum
   5. 16x DVD+/-RW read write device

F. Wide-Screen Flat Panel LCD monitor, 24 inch
   1. LCD TV/Monitor, 24 inch 16:9 format
   2. 1920 x 1200 native resolution
   3. Contrast ratio: 3000:1
   4. Input signals: DVI-D, VGA

G. SONY 3 CCD .6x Coupler or better

IV. Warranty and Service

Vendor will have a full time service engineer or technician that will be accessible via a toll free number for service calls to Users' facilities. The quality of the service and support must be such that the vendor cannot have been deficient in providing similar service and support for similar type instrumentation previously purchased by the State of Alabama. Such deficiency may be exemplified by routine instrument unreliable operation and/or specific exclusion of use of such instrumentation in the laboratory analyses due to such unreliability of operation.

V. Shipping Locations:

Site 1

Alabama Dept of Forensic Sciences
Montgomery Laboratory – FA/TM section
525 Carter Hill Road
P O Box 4248
Montgomery, AL 36106

Site 2

Alabama Department of Forensic Sciences
Mobile Laboratory – FA/TM section
2451 Fillingim St
Mobile, AL 36617

Site 3 (two systems to be shipped to site 3)

Alabama Dept of Forensic Sciences
Birmingham Laboratory – FATM section
2026 Valleydale Road
Hoover, AL 35244-2095